RS-232/422/485 to 100Base-FX Device Server

User's Manual

COPYRIGHT

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, whether electronic, mechanical, photo copying, recording or otherwise, without the prior written permission of the publisher.

FCC WARNING

This equipment has been tested and found to comply with the limits for class A device, pursuant to part 15 of FCC rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. Operation of this equipment in a residential area is likely to cause harmful interference, in which case, the user will be required to correct the interference at the user's own expense.

CE

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

Take special note to read and understand all content given in the warning boxes

Warning

Table of Contents

1 Introduction 1
About This Guide 1
Features 2
Specifications 3
Package Contents 5
2 Hardware Description 6
Product Overview 6
Product Illustrations 7
3 Installation 8
Location 9
Wall Mount Installation 10
Din Rail Mount Installation 10
Powering On Unit 12
Connecting Fiber Cable 13
DB9 Male Connector Pin Assignments 15
Serial Connection 16
Definition of DIP Switches 16
4 LED Indicators 18
5 Configuration 19
Console Port Access 19
Telnet Access 23
Web Access 23
6 Management 25
Via Menu-Driven (Console Port & Telnet) 25
System Information Menu 26
DHCP Configuration Menu 27
RS-232/422/485 Transfer Configuration 27

Monitor Menu 30
TFTP Firmware Upgrade Menu 31
SNMP Configuration Menu 32
System Restart Menu 34
Command Line Interface 36
Command Definitions 36
Web Browser Interface 38
Appendix A 47
Serial IP Redirector.....47

1 Introduction

About This Guide

Welcome

Thank you for selecting the RS-232/422/485 to 100Base-FX Device Server. This unit is designed to provide a RS-232/422/485 connection over twisted-pair cable where the connected devices have RS-232/422/485 interfaces. Enabling serial devices such as CNCs and PLCs to instantly connect to an existing Ethernet/ Fast Ethernet network, the Serial-to-Ethernet Device Server represents a robust solution for devices controllers for MIS personnel.

Purpose

This guide discusses how to install and configure your RS-232/422/485 to 100Base-FX Device Server.

Terms/Usage

In this guide, the term “Device Server” (first letter upper case) refers to your RS-232/422/485 to 100Base-FX Device Server, and “device server” (first letter lower case) refers to other device servers.

Features

- Complies with EIA/TIA and IEEE standards
- 100Mbps Fast Ethernet fiber port
- Supports 4 wires full duplex asynchronous serial data transmission (RS-422/485)
- Supports 2 wires half-duplex asynchronous serial data transmission (RS-485)
- Supports serial port asynchronous data rates up to 115.2 Kbps
- Extended distances up to 1.2 km (24 AWG) using RS-422/485
- Terminator feature improves signal quality and distance
- LEDs for ‘at-a-glance’ device status
- Wall mount or Din-Rail mountable installation
- Power range 9~32V DC
- FCC Class A & CE approved

Specifications

Standards: IEEE 802.3 (10BASE-T Ethernet); IEEE 802.3u (100BASE-FX/ Fast Ethernet); EIA/TIA RS-232/422/485; EIA/TIA-574

Ports: 1x Fiber; Single Mode / Multi-Mode
1x 9-pin serial connector; D-sub, Male

Max. Distance: Fiber: Up to 120,000 meters
Serial: 15 meters (RS-232)
1,200 meters (RS-422, RS-485)

Data Rates: Fiber: 100 Mbps
Serial: 115.2 kbps (asynchronous)

Signals: RS-232: TxD, RxD, CTS, RTS, DTR, DSR, RI, DCD, GND RS-422: TxD+/-, RxD+/-, GND RS-485: Data+, Data-, GND

Configuration: Bits Per Second: 38400
Parity: None
Data bits: 8
Stop bits: 1
Flow Control: None

(The console connection is only available once the DIP switch 1 is ON)

Switches:

DIP 1: Enables / disables console / data communication mode
DIP 2: Enables / disables RS-232
DIP 3: Enables / disables RS- 422/485 (4-wire)
DIP 4: Enables / disables RS-485 (2-wire)
DIP 5: N/A
DIP 5: N/A
DIP 7: Enables / disables termination (TMR)

Power: External power adapter; 9~32V DC @ 800mA
Frequency: 47Hz to 63Hz

Environment:

Temperature:
Operating: 0°C to 50°C
Relative Humidity:
10% to 80%, non-condensing
Storage:
-20°C to 80°C
Relative Humidity:
5% to 90%, non-condensing

Emissions: FCC Part 15 of Class A & CE approved

Dimensions: 109.2 x 90 x 30mm (L x W x H)

Weight: 280 grams

Package Contents

The package should include the following:

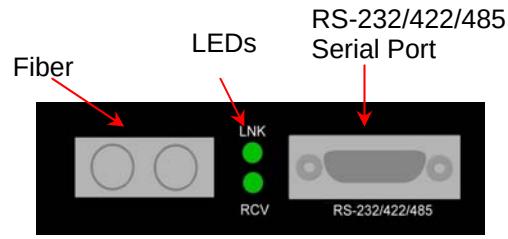
- One RS-232/422/485 to 100Base-FX Device Server unit
- One power adapter (please check connector type and input power specification)
- Four self-adhesive pads
- DIN Rail Kit
- Screws for wall-mount installation
- User's Manual CD
- Serial IP Redirector software CD

2 Hardware Description

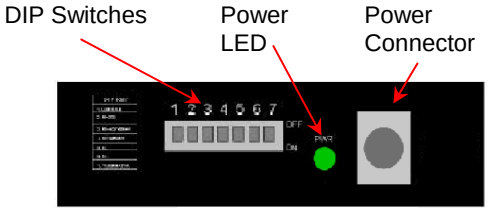
Product Overview

The Device Server features complete Ethernet and TCP/IP network support that allows devices in industry with RS-232/422/485 connectors such as milling machines, measurement instruments, and robots to connect to LAN based automation. Other devices typically found on campus networks such as card readers, code readers, lab equipment, medical equipment, and other similar serial devices can now instantly migrate to a TCP/IP network. Additionally, by deploying the device server, enable users to monitor and manage up to 256 serial devices from single PC with the help of Serial IP Redirector software.

Product Illustrations



F



Rear

3 Installation

To install your Device Server, please see the following procedures:

- Location
- Desktop Installation
- Powering On Unit
- Connecting Copper Cables
- DB9 Male Connector Pin Assignment
- Serial Connection
- Ethernet Connection

Location

The location selected for installing the Device Server may greatly affect its performance. When selecting a site, we recommend considering the following rules:

1. Install the Device Server in a fairly cool and dry place. See *Technical Specifications* for the acceptable temperature and humidity operating ranges.
2. Install the Device Server in a location free from strong electromagnetic field generators (such as motors), vibration, dust, and direct exposure to sunlight.
3. Leave at least 5cm of space at the front and rear of the unit for ventilation.
4. Affix the provided rubber pads to the bottom of the Device Server for grip, and to protect the case from scratching.

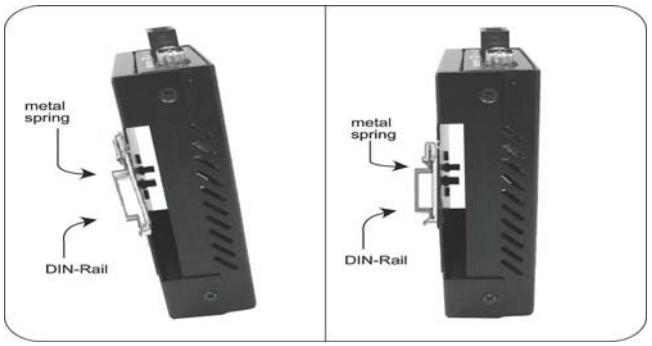
Wall Mount Installation

The Device Server can also be installed by wall mounting. The backside casing provides space for two screws each side. Identify the exact location at wall by placing the Device Server and marking the screw positions. Use the screw (include in the package) and snug them well to fix the Device Server.

Din Rail Mount Installation

The aluminum DIN Rail attachment plate should already be affixed to the back panel of the Device Server. If you need to attach the DIN Rail plate, assure that the stiff metal spring is situated towards the top. Attaching the Device Server to the DIN rail is easy, just align, and attach the top rail, then press down and snap forward the Device Server to snap in the bottom rail, as shown in the figures below.

Use following steps set up the Device Server:



- The surface must support at least 500 gm for the Device Server.
- The power outlet should be within 1.82 meters (6 feet) of the Device Server.
- Visually inspect the power adapter and make sure that it is properly connected.

Make sure that there is proper heat dissipation from and adequate ventilation around the Device Server. Do not place heavy objects on the Device Server.

Warning **Please exercise caution when using power tools. Also, install this unit away from damp or wet locations, or in close proximity to very hot surfaces. These types of environments can have a detrimental effect on the unit and cables.**

Powering On Unit

The Device server uses external power supply 9~32V DC @ 0.8A 50~60 Hz.

1. Insert the power cable plug directly into the receptacle located at the back of the device.
2. Plug the power adapter into an available socket.
3. Check the rear-panel LEDs as the device is powered on to verify that the Power LED is lit. If not, check that the power cable is correctly and securely plugged in.

Note: For International use, you may need to change the AC power adapter cord. You must use a power cord set that has been approved for the receptacle type and electrical current in your country.

Connecting Fiber Cable

When connecting fiber cable to a 100BASE-FX port on the Device Server, be sure the correct type – ST, SC, or WDM - connector is used. Follow the steps below to properly connect fiber cable:

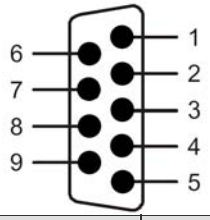
1. Remove and keep the ST/SC/WDM port's rubber cover. When not connected to a fiber cable, the rubber cover should be replaced to protect the optics.
2. Check that the fiber terminators are clean. You can clean the cable plugs by wiping them gently with a clean tissue or cotton ball moistened with a little ethanol. Dirty fiber terminators on fiber optic cables will impair the quality of the light transmitted through the cable and lead to degraded performance on the port.
3. Connect one end of the cable to the ST/SC/WDM port on the Device Server and the other end to the ST/SC/WDM port on the other device.

Note: ***When inserting the cable, be sure the tab on the plug clicks into position to ensure that it is properly seated.***

4. Check the corresponding port LED on the Device Server to be sure that the connection is valid. (Refer to the LED chart in next section)

Warning Because invisible laser radiation may be emitted from the aperture of the fiber port when no cable is connected, avoid exposure to laser radiation and do not stare into the open apertures.

DB9 Male Connector Pin Assignments



PIN	RS-232 (Full-duplex)	RS-422/485 4-wire (Full-duplex)	RS-485 2-wire (Half-duplex)	Signal Direction
1	DCD			OUT
2	RX	RX-	**DATA B(-)	IN
3	TX	TX-		OUT
4	DTR			IN
5	GND	GND	GND	--
6	DSR			OUT
7	RTS	RX+	**DATA A(+)	IN
8	CTS	TX+		OUT
9	RI			IN

NOTE: Bi-directional RS-485 BUS line.

Serial Connection

This Device Server features DIP switches on the rear panel that sets the unit to the correct type of cable configuration to support connection with a RS-232 / 422 / 485 device.

Definition of DIP Switches

No	Dip description	Default
1	ON: Console / OFF: Data	OFF
2	RS-232	ON
3	RS-422 / 485 (4W)	OFF
4	RS-485 (2W)	OFF
5	NA	OFF
6	NA	OFF
7	TMR (Terminator)	OFF

For setting the control function of the serial port, see the table below:

DIP 1	Serial Connection
ON	RS-232 Console
OFF	Data Communication

NOTE:

1. If using console mode turn the DIP Switch 1 to ON position. For data communication from the serial device keep the switch to OFF position. In case of ON position data communication will be blocked and at OFF position console port access.
2. For some RS-422/485 devices, which may not be designed to provide DB-9 connection, please check the pin definition to connect the devices.
3. For the first time installation, you have to use console mode to setup the IP and TCP port configuration with RS-232 cable.

Always use Cross Over cable, if using Straight Through, you must use “Null Modem” to use Telnet option.

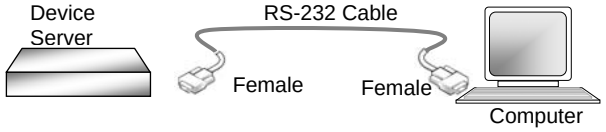
4 LED Indicators

This Device has LED indicators located at the front of the device. The LEDs have been designed to give easy at-a-glance network status, and provides 'real-time' connectivity information. Please see below for an interpretation of their functions:

LED Indicators		
LED	**Condition**	**Status**
PWR	On (Green)	Device Server is receiving power
	Off	Power off or failure
ACT	Blinking (Green)	Serial connector attached and link signals received
	Flashing (Green)	Data traffic passing through serial port
	Off	Serial port is idle or no link established
LNK/ACT	On (Green)	Receiving data packets
	Flashing	Data packets being transmitted or received via fiber port
	Off	Fiber cable is not connected

5
Configuration

There are two separate methods for configuring this Device Server for use. In the first section of this chapter, the Command line Interface (CLI) or Menu-driven interface via the *Console Port* to set the device IP and TCP configuration to monitor/managed the attached serial device via Serial IP Redirector software. The second section will describe *CLI or Menu-driven via Telnet* configuration. Firstly, make the connection below:



DIP Switch 1 set to 'ON' position

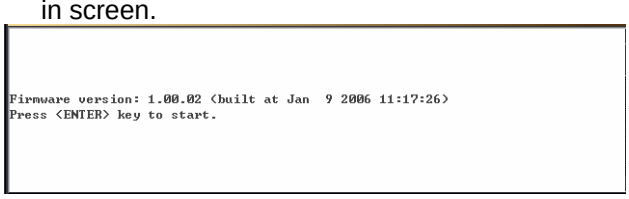
Console Port Access

The Device Server is accessible via a terminal emulator attached to the RS-232 console port. Please follow the step below.

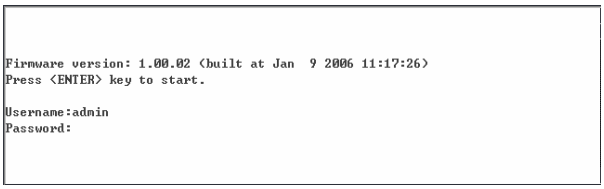
1. Attaching the serial cable to COM port of computer and serial port of device server.
2. Select Hyper Terminal from (start menu →programs → Accessories → communication) a

window will appear, assign the connection name. Then select the correct available COM port (COM1 or COM2). After this enter the port settings as below.
Bits per seconds: 38400
Data bits: 8
Parity: None
Stop bits: 1
Flow Control: None

3. Once connection is established, you will see a log in screen.



4. Press **ENTER** and on the following screen, type the default username **admin,** leave the password field blank since there is no default value and press **ENTER** to proceed.



5. Select either CLI User Interface or Menu-driven Interface option by using the associated number

key or using the **TAB** key and pressing **ENTER**. A relevant Main Menu screen appears.

The Device Server is preset with a factory IP address (192.168.0.254) that must be configured to the user's individual IP address. It is important to do this so that the device server doesn't conflict with other devices with the same defaults.

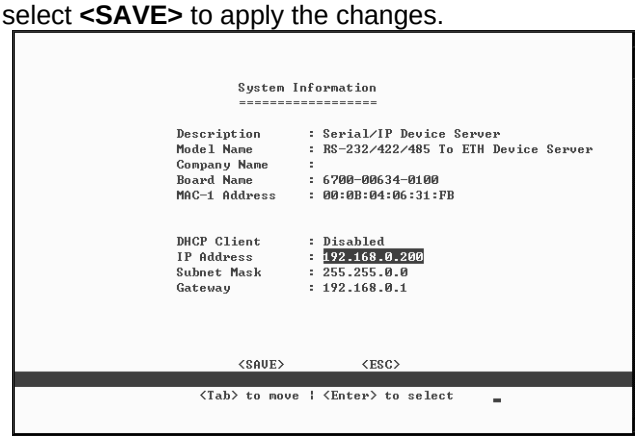
NOTE:
Prior to following the instructions for HyperTerminal Configuration, ensure that a serial cable connection between the device server and workstation exists.

Type the following command line to change the device IP address in CLI mode where **xxx**'s represent values between **0** and **254** and the user should enter their own IP address in this form.

a) set eth0 ip **xxx.xxx.xxx.xxx**

If using the Menu-driven interface. Select the **System Information** from the Main Menu and following screen

will appear. Use **TAB** key to move the cursor and **<Enter>** to change the value. Once change the value, select **<SAVE>** to apply the changes.


System Information
Description : Serial/IP Device Server
Model Name : RS-232/422/485 To ETH Device Server
Company Name :
Board Name : 6700-00634-0100
MAC-1 Address : 00:0B:04:06:31:FB
DHCP Client : Disabled
IP Address : 192.168.0.200
Subnet Mask : 255.255.0.0
Gateway : 192.168.0.1
<SAVE>
<ESC>
<Tab> to move ! <Enter> to select

After entering the new IP address. The system will confirm whether the operation is successful.

NOTE:

Copy the new address down on a piece of paper. You will need the address when you are going to use Telnet or set up data transfer/communication connection.

Warning

IP addresses are unique! If an address isn't available, please contact the appropriate authorities to apply for one.

Telnet Access

The Device Server is accessible via a Telnet. At the command prompt type **telnet 192.168.0.254** (If connecting with default IP). You will be prompted to Enter user name and password as mentioned and shown in the topic Console Port Access. Use CLI or Menu-driven interface to perform the changes.

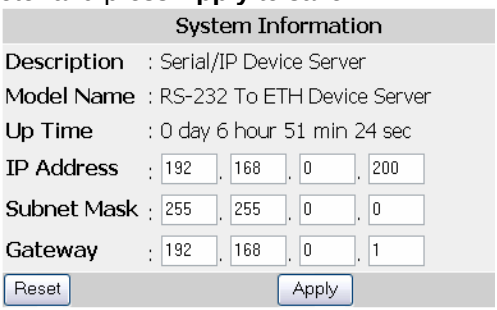
NOTE:
The only limitation of Telnet Access is that users can not assign new IP address to device server. Please use Console Port Access or Web Access to assign new IP address.

Web Access

The Device Server is accessible via a web browser once connected to the network. Type the IP address at web browser **192.168.0.254** (if connecting with default IP). A window will be prompted to Enter user name and password.

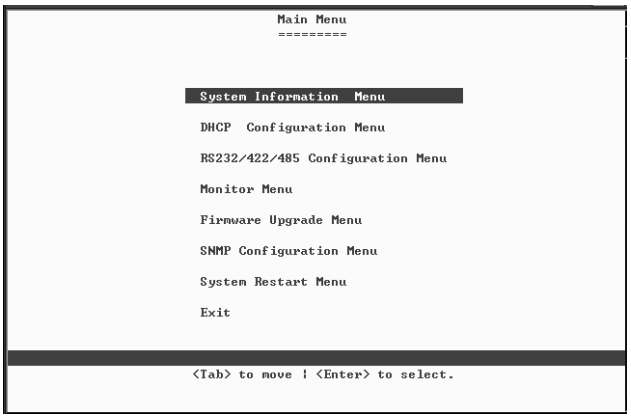
(Note: We use IP 192.168.0.200 to write this manual)

After successful login, select the **System Info.** option and following window will appear. Edit the required parameter and press **Apply** to save.


System Information
Description : Serial/IP Device Server
Model Name : RS-232 To ETH Device Server
Up Time : 0 day 6 hour 51 min 24 sec
IP Address : 192 . 168 . 0 . 200
Subnet Mask : 255 . 255 . 0 . 0
Gateway : 192 . 168 . 0 . 1
Reset
Apply

Via Menu-Driven (Console Port & Telnet)

The figure below shows the Main Menu screen. From this screen the configuration options available provide the user to quickly access and adjust the device server settings as required.

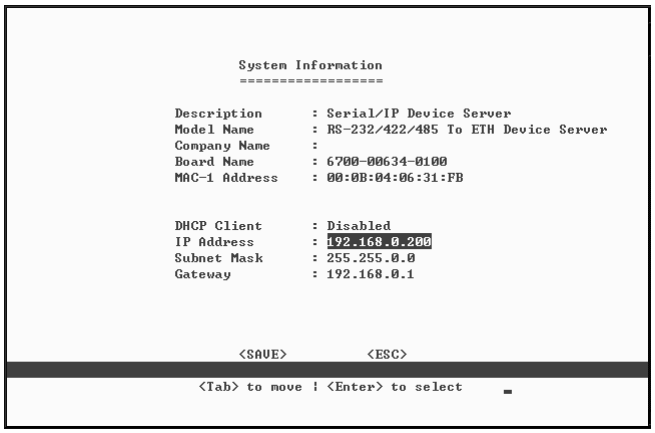


Main Menu Screen

Use **TAB** key to move the cursor to different fields and press **Enter** to select/edit the option.

System Information Menu

From this menu, the user can view some system related information and default IP address. The user should set up appropriate IP address, subnet mask and Gateway for his own network. After entering a new IP address, Telnet and data communication will be based on the 'new' address.


System Information
Description : Serial/IP Device Server
Model Name : RS-232/422/485 To ETH Device Server
Company Name :
Board Name : 6700-00634-0100
MAC-1 Address : 00:0B:04:06:31:FB
DHCP Client : Disabled
IP Address : 192.168.0.200
Subnet Mask : 255.255.0.0
Gateway : 192.168.0.1
<SAVE> <ESC>
<Tab> to move ! <Enter> to select

System Information menu

Once changes are made, move the cursor to **<SAVE>** by using **TAB** key and press **Enter** to save the settings. Change of IP will lead to restart the Device Server.

Note: In Telnet mode you can't change the IP address.

DHCP Configuration Menu

DHCP(Dynamic Host Configuration Protocol) allows the Device Server to obtain an IP address from DHCP server automatically.

NOTE: A DHCP server must exist and be available in your local network prior to enabling the DHCP client.

DHCP Configuration menu

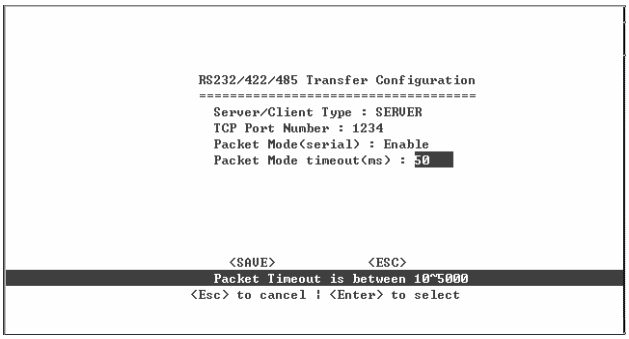
Use **Spacebar** to enable the DHCP Client settings. Select **<SAVE>** to apply the settings and **<ESC>** to move to the previous menu. If you don't want to save the changes made, just select **<ESC>** and you will move to previous menu without making any changes.

RS-232/422/485 Transfer Configuration

The RS-232/422/485 Transfer menu is applicable to all RS-232/RS-422/RS-485 modes. Before using data

transfer mode option for the Device Server, move the DIP Switch 1 to OFF position.

You can assign the TCP port number to monitor and access the serial device via device server over the network/Internet from a workstation using Serial IP Redirector software. (The TCP port number can be of any number from 1024 to 65535).


RS232/422/485 Transfer Configuration
Server/Client Type : SERVER
TCP Port Number : 1234
Packet Mode(serial) : Enable
Packet Mode timeout(ms) : 50
<SAVE>
<ESC>
Packet Timeout is between 10~5000
<Esc> to cancel ! <Enter> to select

RS-232/422/485 Transfer Configuration

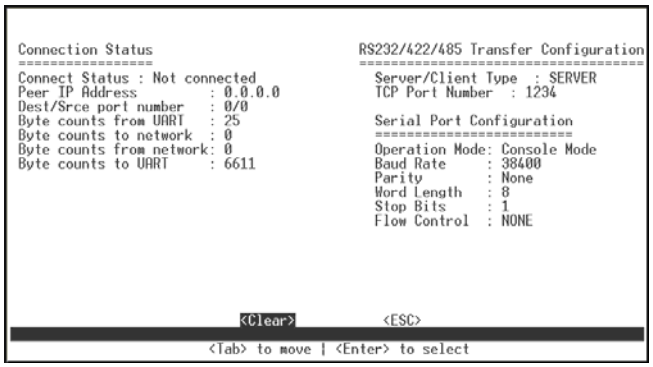
In case you are using a serial device with 2-wire RS-485 application or Modbus RTU protocol, do not forget to "**Enable**" Packet mode of serial input. Also put appropriate inter-packet timeout value to allow the smooth data communication.
To add the time-out value via console mode, first "**Enable**" the packet mode and "Save" the settings. Once settings applied, you will be able to change the timeout value.

Warning

Changes to the settings are saved to a system flash memory and do NOT take effect until a system reset or reboot has occurred. This action validates the new settings.

Monitor Menu

This screen provides at-a-glance system status information.


Connection Status
Connect Status : Not connected
Peer IP Address : 0.0.0.0
Dest/Srce port number : 0/0
Byte counts from UART : 25
Byte counts to network : 0
Byte counts from network: 0
Byte counts to UART : 6611
RS232/422/485 Transfer Configuration
Server/Client Type : SERVER
TCP Port Number : 1234
Serial Port Configuration
Operation Mode: Console Mode
Baud Rate : 38400
Parity : None
Word Length : 8
Stop Bits : 1
Flow Control : NONE
<Clear>
<ESC>
<Tab> to move | <Enter> to select

Monitor Menu

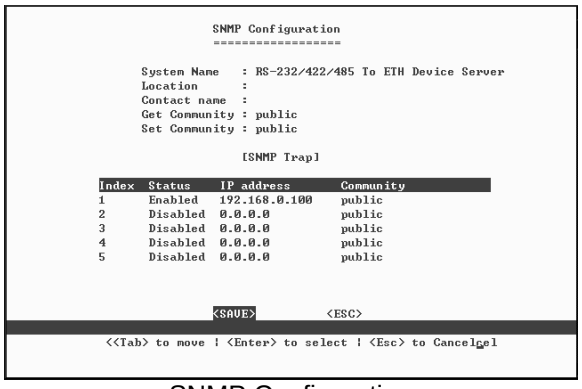
TFTP Firmware Upgrade Menu

From this menu, the user can upgrade the existing firmware to newer firmware available from a TFTP server. Simply enter the file name of the updated firmware in the file name field and enter the IP address of the TFTP server in the IP address field to perform the upgrade. Selecting **<update>** will start downloading the newer firmware and system will restart to apply the firmware.

TFTP Firmware Upgrade menu

SNMP Configuration Menu

Use the SNMP Configuration screen to display and modify parameters for the Simple Network Management Protocol (SNMP). The Device Server includes an onboard SNMP agent that monitors the status of its hardware as well as the traffic passing through its ports. A computer attached to the network, called a Network Management Station (NMS), can be used to access this information. Community strings control access rights to the agent module. To communicate with the Device Server, the NMS must first submit a valid community string for authentication. The options for configuring community strings and related trap functions are described in the following figures and tables.


SNMP Configuration
System Name : RS-232/422/485 To ETH Device Server
Location :
Contact name :
Get Community : public
Set Community : public
[SNMP Trap]
Index Status IP address Community
1 Enabled 192.168.0.100 public
2 Disabled 0.0.0.0 public
3 Disabled 0.0.0.0 public
4 Disabled 0.0.0.0 public
5 Disabled 0.0.0.0 public
<SAVE> <ESC>
<<Tab> to move ! <Enter> to select ! <Esc> to Cancel

SNMP Configuration

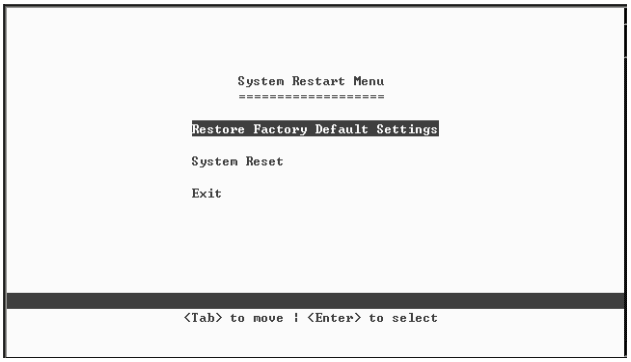
Use the <Tab> and <Enter> keys as previously. Enter the IP address of computers for when abnormalities on a connection occur and an alarm to be sent. Enter their community names and disable or enable their alarm function accordingly. See descriptions below:

Parameter	Description
Index	Number assigned to each trap
Status	Disable or enable their alarm function accordingly
IP Address	Enter the IP address of computers for when abnormalities on a connection occur and an alarm to be sent. Enter their community names and disable or enable their alarm function accordingly
Community	Enter their community names

You can use an external SNMP-based application to configure and manage the Device Server. This management method requires the SNMP agent on the Device Server and the SNMP Network Management Station to use the same community string. This management method, in fact, uses two community strings: the get community string and the set community string. If the SNMP Network Management Station only knows the set community string, it can read and write to the MIBs. However, if it only knows the get community string, it can only read MIBs. **The default get and set community strings for the Device Server are public.**

System Restart Menu

This menu allows users to restore the factory default setting for the Device Server and/or to reset the system manually. Selecting this option will lead to another window with the following two options to select.



System Restart Menu

Restore Factory Default Settings
Selecting this option will lead to restore factory default settings to the device server. Highlight the field and hit the **<ENTER>** key to execute.

System Restart
The System Restart allows a user to perform a 'warm' restart and validate newly saved configuration to the

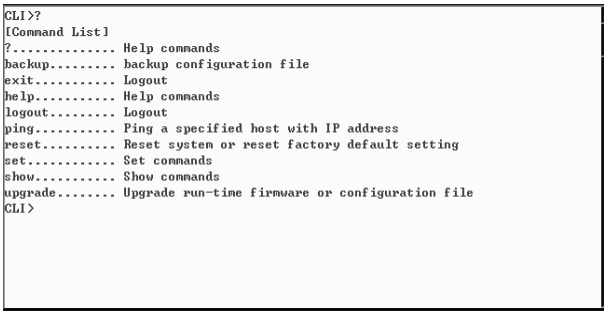
device server. Highlight the System Restart field and hit the **<ENTER>** key to reset the unit.

Warning

After each configuration session, be sure to set DIP switch 1 to the 'OFF' position. Otherwise, the device server will not transmit any data.

Command Line Interface

Once you logged in and select the option of Command Line Interface, a window with command prompt will appear. Type **?** or **help** and it will show you the command list.



Command List

Command Definitions

backup: Use this command to save configuration settings to file.

exit: Type exit or logout and press **ENTER** to quit the program.

help: To access help commands list.

logout: To logout from the device server.

ping: Type **ping** followed by a **space**, and then the **IP address** of the device to send a test signal. If a response is received, then the device is connected. To view a full list of **ping** options, type ping and press **ENTER.**

reset: Type **reset config** and press **ENTER** to load factory default settings, or type **reset system** and press **ENTER** to restart the system.

show: Type **show** to display variety of device server settings.

set: To configure the management settings, type the commands below, followed by the **ENTER** key.

NOTE: Separate each port of the command line with a space.

set admin - follow the prompts to change user name and password

set eth0 - the command is for factory setting use **set eth0 ip** (new IP address) **network mask (**new network mask) **gateway** (new gateway). Use this command to set new Ethernet settings.

set idle - (time in seconds) **–** set automatic logout. when the program or communication is idle

set xfer - the command is for RS-232 configuration and data communication setting. The command syntax is as below.

set xfer [arg_1 data_1] [arg_2 data_2] ...
[arg_n data_n]
[Argument List]
Port..... Set TCP port number
statistics..... Clear statistics

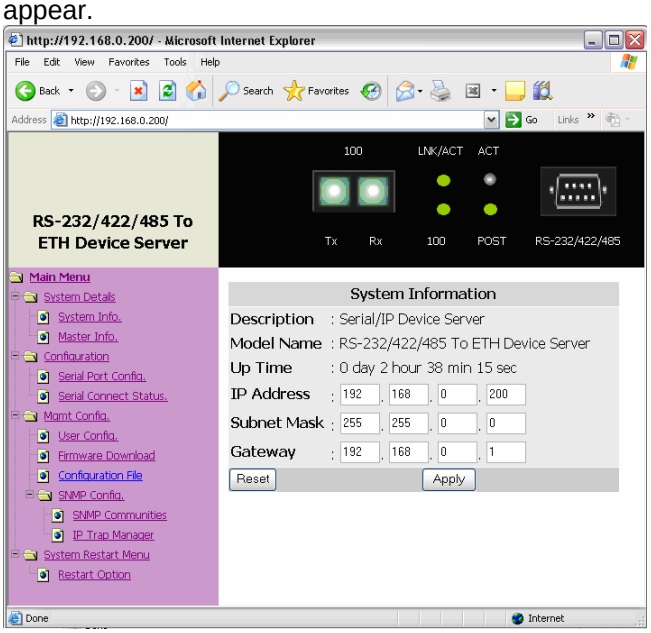
upgrade - Use this command to upgrade the firmware.
i.e upgrade firmware xxx.xxx.xxx.xxx Soft2.bin

set snmp - Use this command to set SNMP settings of the device server.

Warning
After each configuration session, be sure to set DIP switch 1 to the 'OFF' position. Otherwise, the device server will not transmit any data.

Web Browser Interface

Please see the topic “Web Access” in previous chapter to log-in the Device Server via web browser. Once you logged in the following main screen will appear.



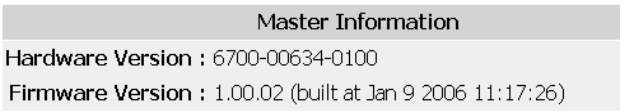
System Details

This category has two options of **System Info** and **Master Info**.

a) System information is as shown above, will show IP Address, Subnet Mask and Gateway

settings. After editing the setting press **Apply** to implement the settings.

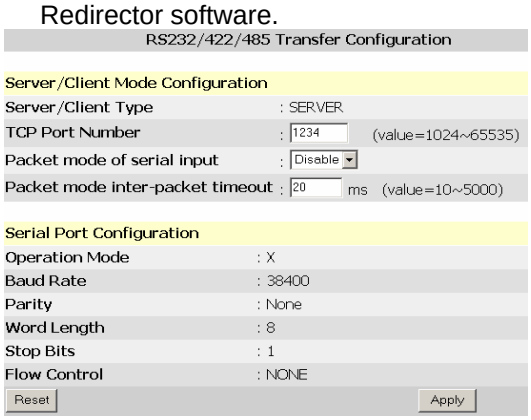
b) Master Info will show the hardware and firmware version.



Configuration:

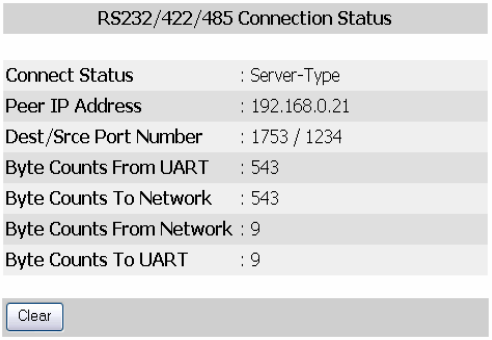
User can monitor the serial port status and configure TCP port number from this menu.

a) **Serial Port Config.** window will show you the serial port configuration and allow to assign the TCP port number to operate via Serial IP Redirector software.



In case you are using a serial device with 2-wire RS-485 application or Modbus RTU protocol, do not forget to "**Enable**" Packet mode of serial input. Also put appropriate inter-packet timeout value to allow the smooth data communication.

b) **Serial Connect Status** will show the serial port connection to the serial device.


RS232/422/485 Connection Status
Connect Status : Server-Type
Peer IP Address : 192.168.0.21
Dest/Srce Port Number : 1753 / 1234
Byte Counts From UART : 543
Byte Counts To Network : 543
Byte Counts From Network : 9
Byte Counts To UART : 9
Clear

User can get the instant information about the connectivity.

Connect Status: Server or Client

Peer IP Address: IP of remote PC access the serial device via Device Server

Dest/Srce Port Number: Showing the destination and source Port numbers. Source port number will be as configured.

Byte Counts From UART: Displaying the number of bytes transmitted from serial device.

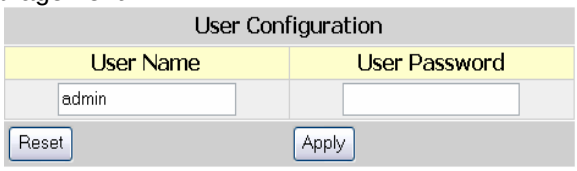
Byte Counts to Network: Displaying the number of bytes received to TCP/IP network.
Byte Counts From Network: Displaying the number of bytes transmitted from Network.
Byte Counts to UART: Displaying the number of bytes received to serial device.

Mgmt. Configuration

This category offers multiple management options.

User Config.

This option will allow user to change the “username” and “user password” for the device server management.



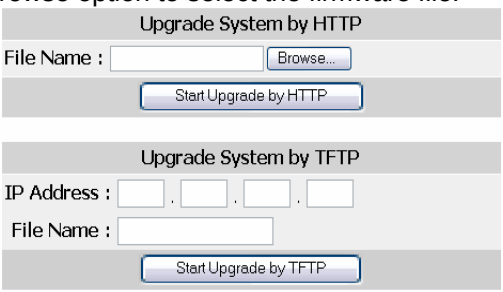
Type the new user name in the “User Name” and password to “User Password”. Selecting **Apply** will implement the new user name and password, which will be required to manage the device server.

Warning

It is recommended to keep a written record in a safe place for the User Name and Password. In case, you lost the both or either one, you need to reset the system to default setting. This can be done by pressing a button at S1 location of PCB (near to capacitor) after removing the casing.

Firmware Download

The user can download the newer/latest firmware to upgrade the device server once available. The user has two options, either they can upgrade via HTTP with browse option to select the firmware file.



If using TFTP method, user must provide the valid IP address of TFTP server and the file name, i.e. VK413.bin.

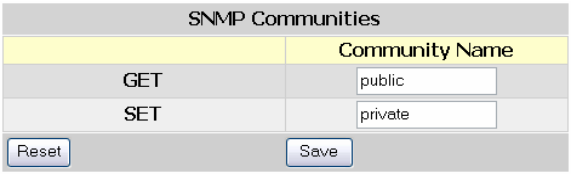
Once enter the parameters press “Start Upgrade by HTTP / TFTP” to upgrade the firmware. The window will appear to show the time to before restarting the device server to implement the upgraded firmware.

SNMP Config.

You can use an external SNMP-based application to configure and manage the Device Server. This management method requires the SNMP agent on the Device Server and the SNMP Network Management

Station to use the same community string. This management method, in fact, uses two community strings: the **Get** community string and the **Set** community string. If the SNMP Network Management Station only knows the **Set** community string, it can read and write to the MIBs. However, if it only knows the **Get** community string, it can only read MIBs. The default **Get** and **Set** community strings for the Device Server are public and private respectively.

SNMP Communities



If needed, assign the new parameters and press **Save** to implement the settings.

IP Trap

The following figure and table describe how to specify management stations that will receive authentication failure messages or other trap messages from the Device Server. Up to 5 trap managers may be assigned.

Click on each parameter field to modify the desired setting, then click on **Undo** to restore previously saved configurations or click on **Save** to retain newly entered information. See descriptions below:

Parameter	Description
IP Address	Enter the IP address of terminals for when abnormalities on a connection occur and an alarm to be sent. Enter their community names and disable or enable their alarm function accordingly
Community Name	Enter their community names
Status	Disable or enable their alarm function

System Restart Menu

Users can restart/reset the system via software from a remote location.

Restart Options

System Restore Factory Default Settings
Restore the factory default settings of the Device.
Restore
System Reset
Press "Reset" if the device is abnormally functioning.
Reset

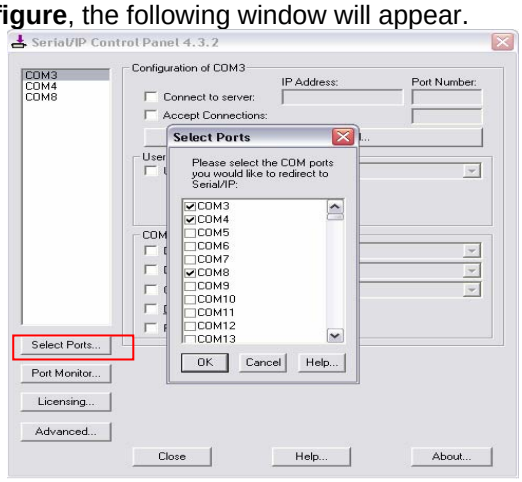
⚠ Clicking on the Restore button will set the device server back to factory defaults. All saved configurations will be lost.

Appendix A

Serial IP Redirector

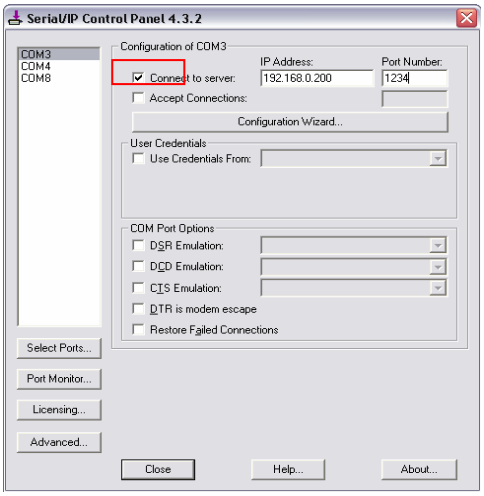
Install the Serial IP Redirector software from CD-Rom. Once it's installed, you can read the "documentation" to get assistance related to Serial IP Redirector. The documentation will be installed to your PC with the software.

The serial IP icon can be found at the right corner of system tray. Right click the icon and select **Configure**, the following window will appear.



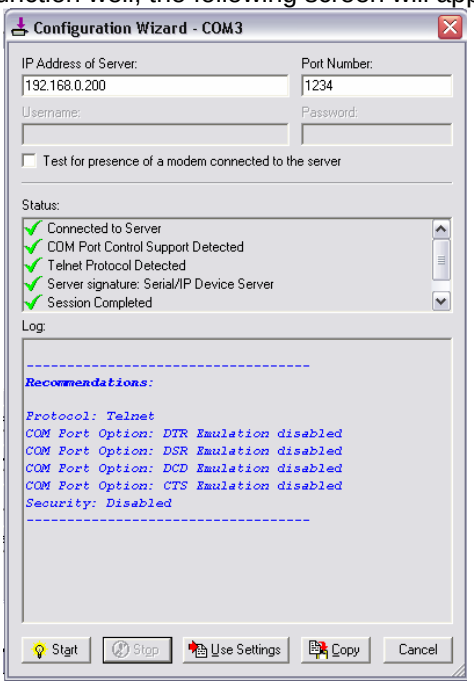
Click on **Select Ports** option to configure the Virtual COM ports. You can select up to 256 virtual COM ports. COM1 and COM2 are normally physical ports, so will not appear here. The selected ports will be shown on the left top corner of the Configure screen.

Selecting the “Connect to server” will allow you to enter IP address and port number. Enter the correct IP address and port number assigned to the Device Server.



After assigning the IP address and port number, press **Configuration Wizard** button to check if the link is established.

On the following screen, press button. If the link is function well, the following screen will appear.



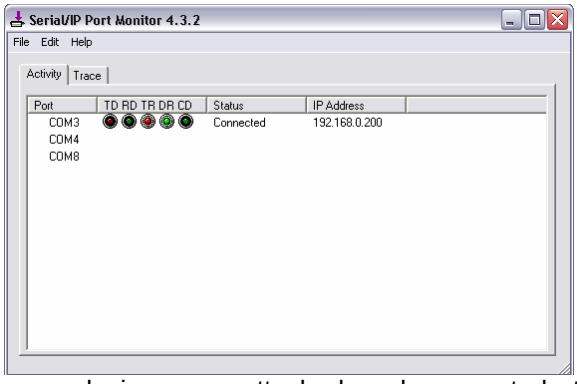
If the link has trouble, the error message will appear. To solve the problem, please check the following:

a) Whether IP address and Port numbers are correct.

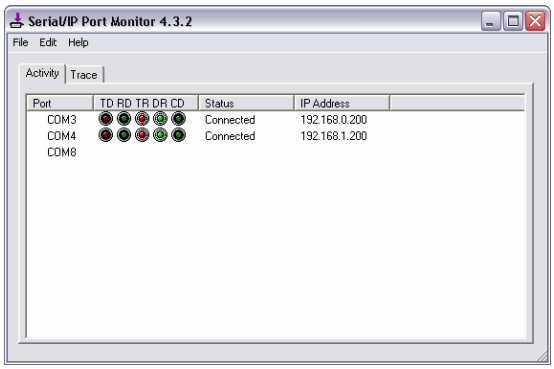
b) DIP Switch 1 is at OFF position for data transfer mode.
c) DIP Switch 2, 3 and 4 are correctly selected as per the serial device attached.

Once the link is established, you can manage the serial device attached to the device server from remote workstation installed Serial IP Redirector software.

From the Serial IP "**Port Monitor**" option, you can see the connectivity status and IP address of the device server.



If more devices are attached and connected, the status and IP address of those devices will also be showed against each Virtual COM port as shown below.


Serial/IP Port Monitor 4.3.2
File Edit Help
Activity Trace
Port TD RD TR DR CD Status IP Address
COM3 Connected 192.168.0.200
COM4 Connected 192.168.1.200
COM8